



NEWSLETTER OF THE LONDON CHAPTER,
ONTARIO ARCHAEOLOGICAL SOCIETY

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April, 1996

96-3

THE ARCHAEOLOGY OF SALMON FISHING ON THE NORTHWEST COAST OF BRITISH COLUMBIA

Aubrey Cannon, McMaster University
Thursday, May 9th, 8:00 PM

Our last speaker night before the summer hiatus is sure to make your mouth water and eyes pop up, as Aubrey Cannon takes us to the beautiful northwest coast of BC. No ploughed fields and small creeks here!! So come on out for our last speaker night of the season, **AT THE LONDON MUSEUM OF ARCHAEOLOGY**, 1600 Attawandaron Road (near the corner of Wonderland and Fanshawe Park Road in the northwest end of the city). Meeting time is 8 PM.

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HEY EVERYONE, COME ON OUT TO OUR:

BOOK LAUNCH
for
DEEDS/NATIONS
by Greg Curnoe

Forest City Gallery, 798 Dundas Street East, Sunday, May 5th, 2PM
Everyone Welcome - Refreshments Served

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ANNUAL RATES

Individual.....	\$15.00
Family.....	\$18.00
Institutional.....	\$21.00
Subscriber.....	\$17.00

EXECUTIVE REPORT

Between the recent strike and the fact that Executive members still have frozen digits from recent fieldwork, the only item on the agenda this month is the Chapter's library and what to do with it. So far, the options proposed include: setting up the library at 55 Centre Street; donating the library to a worthy institution, such as the Anthropology Department of the University of Western Ontario; or, selling the books to raise funds for future Chapter publications. The Executive welcomes any opinions on these options and invites alternative solutions.

SOCIAL REPORT

Chapter members may be interested in two events scheduled for the first weekend in May. On May 4 and 5 see *History Come to Life* at the Longwoods Conservation Authority, on Highway 2 just west of Delaware. There will be re-enactments of the 1812 Battle of Longwoods daily at 2 pm as well as artillery demonstrations, children's militia, 19th century merchants and crafts and much more. Longwoods is open to the public from 11 am to 5 pm.

The book launch for the London Chapter's Occasional Publication Number 4: Greg Curnoe's **Deed/Nations**, is 2pm on Sunday May 5th at the Forest City Gallery, 798 Dundas Street East, London. We are planning refreshments and witty conversation, so come out for a bit of weekend fun! Although the book has not been launched officially, sales are brisk, so don't forget to bring your wallet/purse/cheque book/money order to pick up a copy of this hot seller!

Karen Mattila, curator at the Longwoods Conservation Authority, has kindly offered to host the Chapter's 1996 picnic. We had our picnic last year at Longwoods, and for those who made it out it a great time was had hiking, playing badminton, eating junk food, and playing architect on the reconstructed Iroquoian village...just kidding Karen! Unless anyone has an alternative suggestion, plan to come out to Longwoods this summer or early fall. Which brings up the next point, when would you like the picnic to be held...during the summer, in the middle of the field season, or in the early fall (also in the middle of the field season)? Contact any member of the Executive with your thoughts.

EDITORS' REPORT

This month's article is yet another contribution from the Ministry of Transportation, Southwest Region, this time by Peter Timmins. The excavation and analysis of the Wimmer site has succeeded in identifying interesting patterns and correlations in the distribution and nature of the cultural remains. However, the enigma surrounding the identification and temporal placement of the inhabitants serves to remind us of the limitations of our current knowledge, and that to some extent our present data base will only be truly intelligible through future discoveries.

And, as always, the Newsletter coffers are low... so cough up!

THE WIMMER SITE (AiHb-110), WELLINGTON COUNTY, ONTARIO

Peter A. Timmins

INTRODUCTION

On September 23, 1993 archaeological staff of the Ministry of Transportation (MTO) Environmental Unit conducted an archaeological survey of a portion of the Puslinch Crown Reserve property in Puslinch Township, Regional Municipality of Waterloo (Figure 1). This property was being considered by MTO as a potential aggregate source for construction on adjacent Highway 401. The survey resulted in the discovery of one archaeological site, the Wimmer site (AiHb-110), located in the south-central portion of the property (Figure 1). The Wimmer site was salvage excavated in May and June of 1994. This report describes the results of the excavations conducted on the Wimmer site.

LOCATION AND PHYSICAL SETTING

The Puslinch Crown Reserve is located within an ancient glacial spillway associated with the easterly section of the Horseshoe Moraines physiographic region (Chapman and Putnam 1984:127). This region is composed of a series of till moraines and spillways that cover a large horseshoe shaped area extending from the Region of Haldimand-Norfolk, north to Grey and Bruce Counties, and south as far as Lambton County. The combination of moraines and spillways form a landscape characterized by stony hills and ridges, sand and gravel terraces, and swampy valley floors (ibid). The Puslinch Crown Reserve is located on one of the sand and gravel terraces of this large physiographic entity.

Kettle lakes and ponds are common within the Horseshoe Moraines and the Puslinch Crown Reserve is located

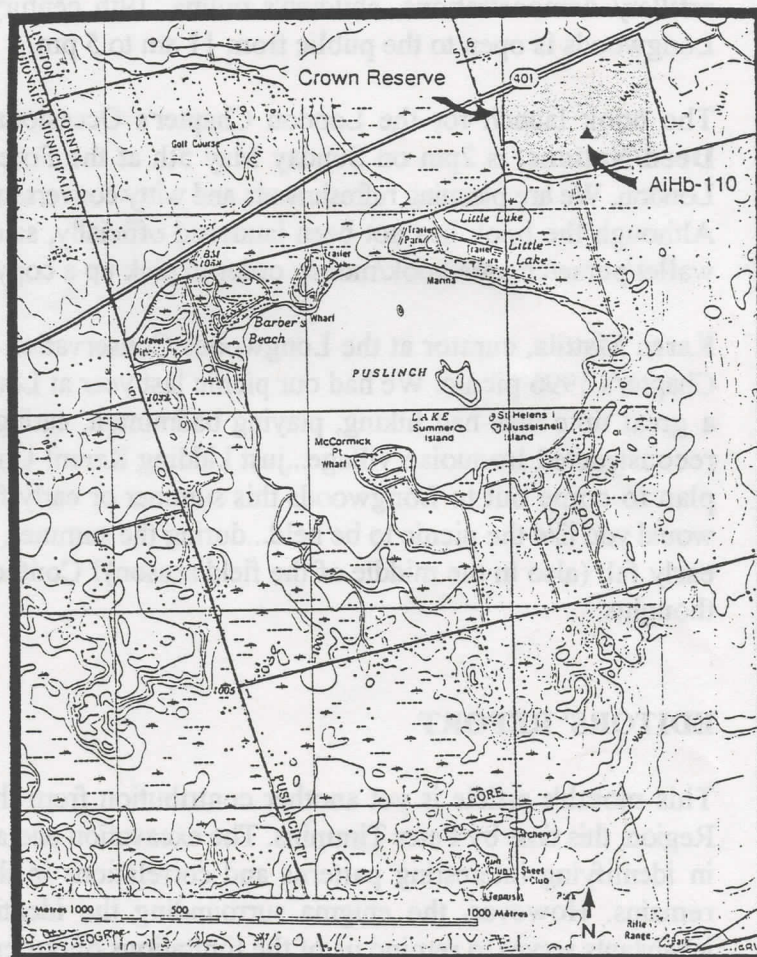


Figure 1: Location of Puslinch Crown Reserve
and Wimmer Site (AiHb-110)

in proximity to two of these: Little Lake, located 60 metres to the southwest and Puslinch Lake, located 600 metres away in the same direction.

The Wimmer site (AiHb-110) is in a re-forested pine plantation that had been ploughed in the past. The topsoil depth varies from 14 to 32 cm with an average depth of 23.7 cm. Excavations were conducted by shovel and all soil was screened through 5 mm mesh. The subsoil surface was carefully trowelled to check for posts and features but neither were found. In total, 142 one metre squares were excavated.

The site is located on a sandy rise surrounded by gravelly soils and overlooking a low-lying marshy area to the southwest. This low-lying area is not immediately apparent today because the landscape has been altered by clearing, creation of agricultural fields, alterations to drainage, and planting of trees. Modern agricultural techniques have greatly improved land drainage and substantially reduced wetland areas over the last century. When the extent of this wetland is considered, the strategic location of the Wimmer site is more apparent. Wetlands contain many animal and plant resources of importance to prehistoric populations (Timmins 1992b), and the location of the Wimmer site is probably related to the availability and exploitation of these resources. The site is presently located 400 metres northeast of Little Lake, however, it is possible that some of the marshy area around Little Lake was inundated at the time the site was occupied.

Further evidence of the prehistoric importance of this area is found in the large number of registered archaeological sites located around Puslinch and Little Lakes. In the 1960s G.F. MacDonald registered two Late Woodland sites on the north shore of Puslinch Lake, and a third Late Woodland site just east of Little Lake. In recent years much of the land located west of Puslinch Lake, between Townline Road and Franklin Boulevard, has been surveyed for archaeological sites prior to development. These surveys have resulted in the discovery of 77 registered archaeological sites in this area. An examination of the MCZCR sites database revealed that most of these sites are small; several are findspots, and several are of unknown cultural affiliation. Yet, when the information from both sites and findspots is combined, a long and intensive prehistoric use of the area is apparent. Seven sites or findspots are attributed to the Early Archaic period, 3 are attributed to the Middle Archaic period, 7 relate to the Late Archaic, 10 to the Early Woodland, 2 to the Middle Woodland, and 5 to the Late Woodland.

ARTIFACT ANALYSIS

Aside from a few small and probably intrusive bones, the Wimmer site collection consists exclusively of lithics - chipped stone tools and associated waste. The entire lithic collection is summarized in Table 1. As Table 1 shows, several types of unifacial and bifacial tools are represented in the collection. This suggests that the assemblage was generalized rather than specialized, with tools suited to a variety of tasks.

**TABLE 1:
INVENTORY OF WIMMER SITE ARTIFACTS**

<i>Artifact Type</i>	<i>f</i>	<i>%</i>
Debitage	2883	96.6
Utilized Flakes	64	2.2
Retouched Flakes	9	.3
Scrapers	8	.3
Bifaces	8	.3
Projectile Points	5	.2
Gravers	2	.1
Cores	4	.1
Drill	1	.0
Total	2984	100.1

Lithic Raw Materials

Onondaga chert is clearly the dominant chert type at Wimmer, as more than 97% of thedebitage and tools consists of this material (Table 2). Two variants of Onondaga chert are present. The first is a light brown-grey mottled material and the second is a darker grey, more lustrous material. Much of the darker grey Onondaga is burnt, and experiments conducted by the writer have shown that the light grey-brown material often turns dark when subjected to heat. Onondaga chert outcrops along the Onondaga escarpment in several areas between Villa Nova and Fort Erie, 55 km to the south, but it also occurs in nodular or cobble form in glacial tills throughout much of southwestern Ontario. Some of the very dark grey Onondaga chert may derive from eastern Onondaga outcrops in New York State and is referred to as Eastern Onondaga chert in Table 2. Analysis of raw material types in the Wimmer collection was quite efficient owing to the dominance of Onondaga chert, therefore, no sampling strategy was employed.

The use of materials other than Onondaga chert is minimal, but Kettle Point and Bayport cherts are present in high enough frequencies to at least indicate contact with groups living in more distant regions. Kettle Point chert outcrops near Kettle Point on the southeast shore of Lake Huron, 145 km west of the Wimmer site. Bayport chert comes from the Saginaw Bay area of Michigan, some 250 km west of the site, across the southern end of Lake Huron. The occurrence of Bayport chert at Wimmer is interesting, inasmuch as all four Bayport pieces are scrapers or fragments thereof. The significance of these scrapers is explored later in the discussion section of this report.

**TABLE 2 :
LITHIC RAW MATERIAL TYPES - TOOLS AND DEBITAGE**

<i>Material</i>	<i>f</i>	<i>%</i>
Onondaga	2904	97.3
Eastern Onondaga?	14	.5
Unknown	27	.9
Kettle Point	20	.7
Haldimand	14	.5
Bayport	4	.1
Schist	1	.0
<i>Total</i>	2984	100.0

Debitage

A systematic sample consisting of every second excavation unit was analyzed fordebitage morphology. This resulted in 1586 pieces ofdebitage, being divided into five morphological flake types: primary, secondary, bipolar, fragmentary, and shatter (Table 3).

Thedebitage analysis indicates that biface production was a significant activity at the Wimmer site, with secondary flakes accounting for 27% of the assemblage. At the same time, core reduction was also quite common, as 19% of the flakes are of the primary type.

Debitage density per metre square is shown in Figure 2. As this figure shows, the areas of highestdebitage density are concentrated in the south-central part of the site, although there are areas of higher density in the north half of the site as well. The possible significance of this distribution is discussed later in this report.

**TABLE 3:
WIMMER SITE FLAKE TYPES**

<i>Flake Type</i>	<i>f</i>	<i>%</i>
Primary	306	19.3
Secondary	433	27.3
Fragments	811	51.1
Shatter	35	2.2
Bipolar	1	.1
<i>Total</i>	1586	100.0

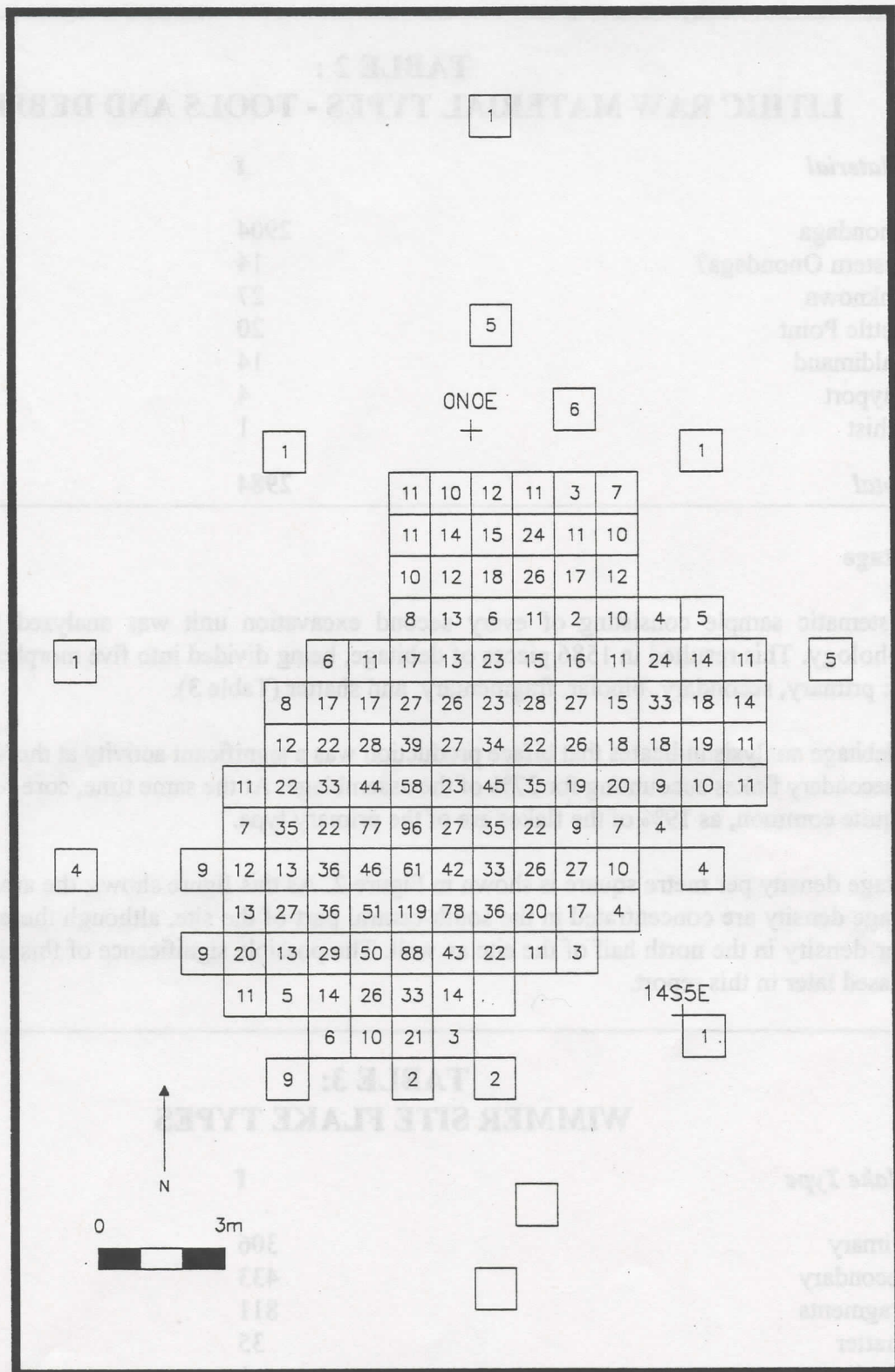


Figure 2: Frequency of Debitage by one metre unit.

Cores

Cores are surprisingly rare in the Wimmer collection: only four have been identified. Their dimensions are provided in Table 4. Three of the cores are of a dark grey material similar to Eastern Onondaga chert from New York State. Two of these are block core fragments with brown limestone cortex on the preferred striking platform. Flakes have been removed in uni-directional fashion around the circumference of these cores.

The third core of dark grey chert is a random core, having been flaked from several different directions. It also has some brown cortex adhering to its top surface.

The final core is a heavily weathered nodule of brown chert (with white inclusions) that has not been identified with a known source. It may be a local pebble chert. It has been struck at one end and split longitudinally, perhaps as a test for material quality.

It is unusual that there are no cores of the grey-brown Onondaga chert that is so common on the site. This suggests either that most material was brought to the site in blank form (as preforms) or that raw material was in short supply and cores were carefully retained.

**TABLE 4:
CORE DATA**

<i>Provenience.</i>	<i>Type</i>	<i>L</i>	<i>W</i>	<i>T</i>	<i>Material</i>
S07E04	Block Uni-directional	(24)	26	18	Eastern Onondaga?
S06E04	Block Uni-directional	(16)	14	14	Eastern Onondaga?
S04E04	Random Block	35	22	12	Eastern Onondaga?
S11E03	Nodule Uni-directional	40	28	17	Local Pebble

Note - incomplete measurements are in brackets.

Utilized Flakes

As is the case in many prehistoric assemblages, utilized flakes are the most common tool form at Wimmer. A total of 64 utilized flakes were identified. These flakes were selected from the debitage based on macroscopically observed evidence of use which usually took the form of microflaking, edge rounding or polish. All flakes were then checked with a binocular microscope (10 x 40) to confirm the presence of such wear. Data on the utilized flakes is provided in the licence report (Timmins 1995).

The utilized flakes have a mean length of 20.1 mm, a mean width of 18.8 mm, and a mean thickness of 4.3 mm. These utilized flakes are shorter and wider than those found on five other sites to which this collection was compared. On the Billiard, Little Shaver and Stelco 1 sites, which range from Early Woodland to Late Paleo-Indian in cultural affiliation, utilized flakes averaged 27.0 mm, 22.5 mm, and 21.8 mm respectively (Timmins 1992a, 1993, 1994). The trend toward short, wide utilized flakes at Wimmer may be related to the use of local pebble cherts that often produce shorter flakes than higher quality cherts from primary sources.

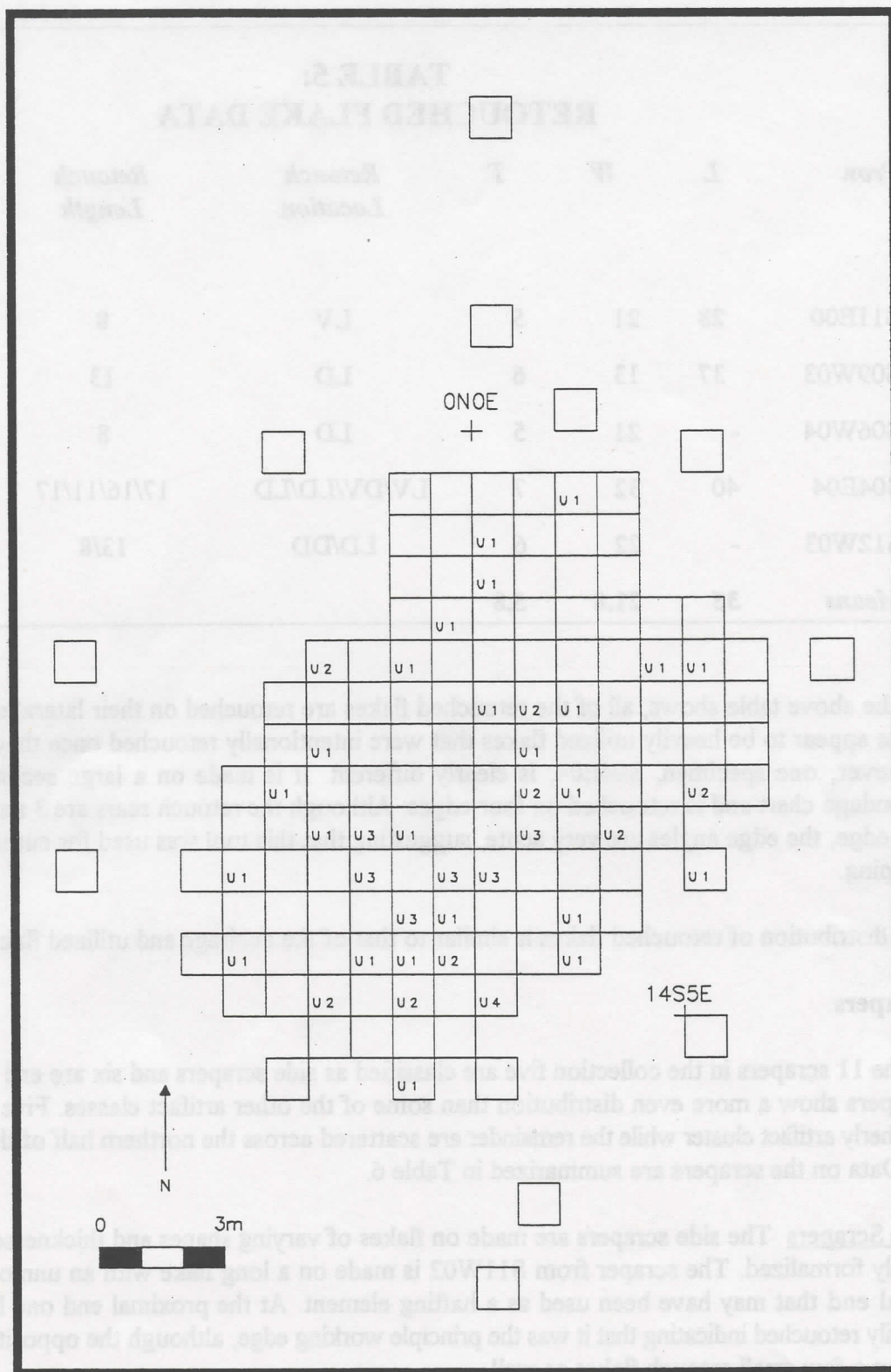
Most of the utilized flakes appear to have functioned as informal side scrapers. Thirty-six percent of them display lateral dorsal use wear, 31% display lateral ventral wear, while 4.7% display wear on both lateral edges. In contrast, only 23.5% display distal use wear implying that they were used like end scrapers. Three flakes (4.7%) were used on both their distal and lateral edges. The use of lateral edges over distal edges may simply reflect the fact that lateral edges are usually the longest employable edges of the flake. It is notable that there are no instances of bifacial use retouch.

With regard to flake type, 32.8% of the utilized flakes are made on primary flakes, 21.9% are on secondary flakes, and 45.3% are on flakes fragments. When compared to the flake type frequencies for the debitage sample, these figures indicate a slight preference for utilizing primary flakes, probably because they are generally larger than secondary flakes.

The utilized flake distribution largely mirrors the distribution of debitage. The highest concentration occurs in the south-central portion of the excavated area (Figure 3).

Retouched Flakes

There are only five retouched flakes in the Wimmer assemblage. These are flakes that exhibit continuous retouch between 1 and 2 mm in height, discontinuous retouch over 2 mm in height, or continuous retouch over 2 mm in height forming a very acute edge angle. Continuous retouch is defined as retouch that is greater than 5 mm in length. Discontinuous retouch involves one or more areas of retouch that are less than 5 mm in length. The data on retouched flakes are provided in Table 5.



**TABLE 5:
RETOUCHED FLAKE DATA**

<i>Prov.</i>	<i>L</i>	<i>W</i>	<i>T</i>	<i>Retouch Location</i>	<i>Retouch Length</i>	<i>Flake Type</i>
S11E00	28	21	5	LV	8	SEC
S09W03	37	13	6	LD	13	PRI
S06W04	-	21	5	LD	8	FRA
S04E04	40	32	7	LV/DV/LD/LD	17/16/11/17	SEC
S12W03	-	22	6	LD/DD	13/8	FRA
<i>Means</i>	35	21.8	5.8			

As the above table shows, all of the retouched flakes are retouched on their lateral edges. Four of these appear to be heavily utilized flakes that were intentionally retouched once they became dull, however, one specimen, S04E04, is clearly different. It is made on a large secondary flake of Onondaga chert and is retouched on four edges. Although the retouch scars are 3 mm in height on one edge, the edge angles are very acute, suggesting that this tool was used for cutting rather than scraping.

The distribution of retouched flakes is similar to that of the debitage and utilized flakes (Figure 4).

Scrapers

Of the 11 scrapers in the collection five are classified as side scrapers and six are end scrapers. The scrapers show a more even distribution than some of the other artifact classes. Five lie within the southerly artifact cluster while the remainder are scattered across the northern half of the site (Figure 4). Data on the scrapers are summarized in Table 6.

Side Scrapers The side scrapers are made on flakes of varying shapes and thicknesses and are not highly formalized. The scraper from S11W02 is made on a long flake with an unmodified narrow distal end that may have been used as a hafting element. At the proximal end one lateral edge is heavily retouched indicating that it was the principle working edge, although the opposite lateral edge shows a few small retouch flakes as well.

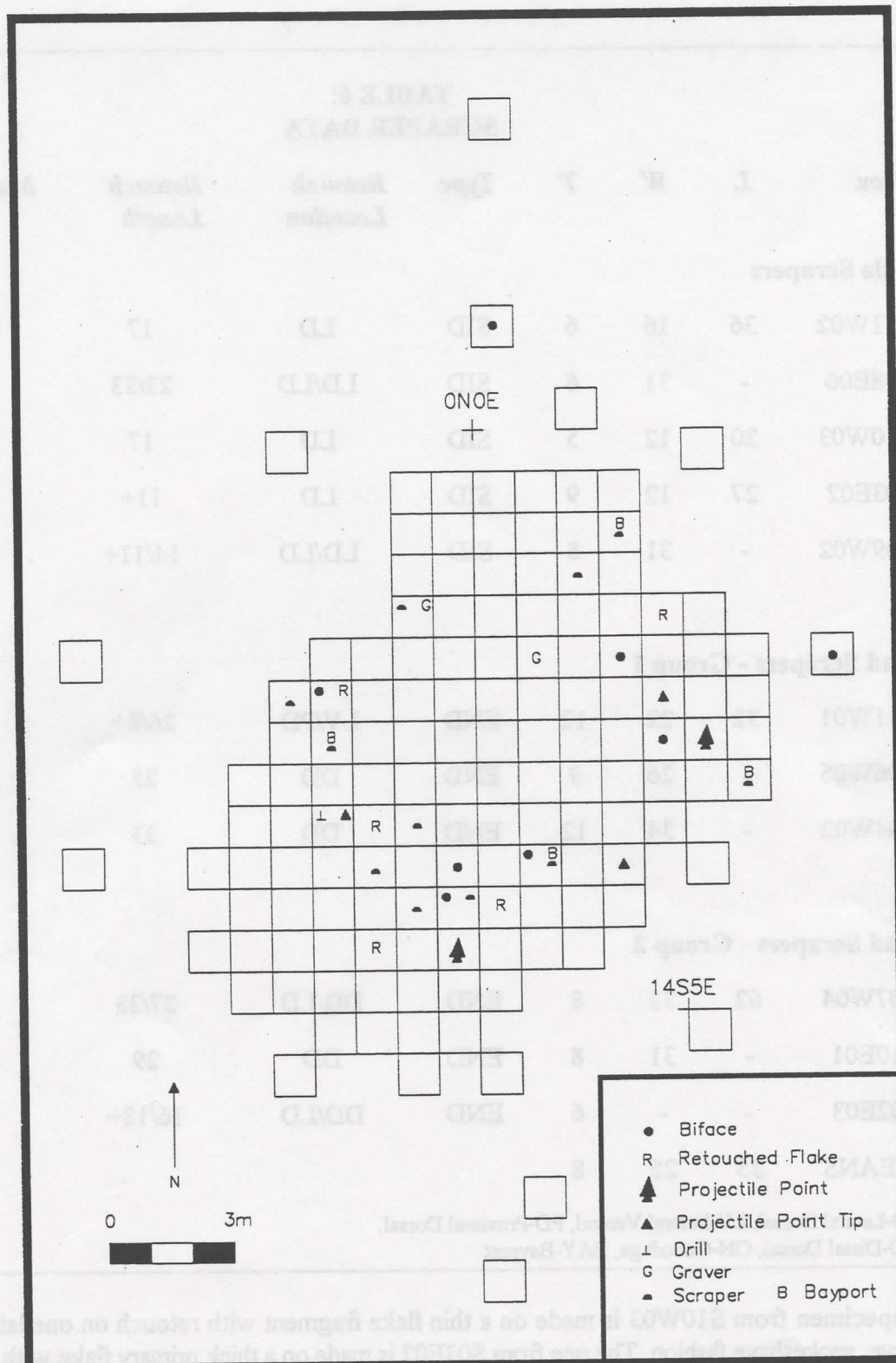


Figure 4: Artifact Distributions.

**TABLE 6:
SCRAPER DATA**

<i>Prov.</i>	<i>L</i>	<i>W</i>	<i>T</i>	<i>Type</i>	<i>Retouch Location</i>	<i>Retouch Length</i>	<i>Material</i>
Side Scrapers							
S11W02	36	16	6	SID	LD	17	ON
S08E06	-	31	6	SID	LD/LD	23/33	BAY
S10W03	20	12	5	SID	LD	17	ON
S03E02	27	12	9	SID	LD	11+	ON
S09W02	-	31	8	SID	LD/LD	14/11+	ON
End Scrapers - Group 1							
S11W01	32	22	12	END	LV/PD	26/8+	ON
S06W05	-	26	9	END	DD	25	ON
S04W02	-	34	12	END	DD	23	ON
End Scrapers - Group 2							
S07W04	62	33	8	END	DD/LD	27/33	BAY
S10E01	-	31	8	END	DD	29	BAY
S02E03	-	-	6	END	DD/LD	16/18+	BAY
MEANS	35	25	8				

LD-Lateral Dorsal, LV-Lateral Ventral, PD-Proximal Dorsal,
DD-Distal Dorsal, ON-Onondaga, BAY-Bayport

The specimen from S10W03 is made on a thin flake fragment with retouch on one lateral edge in concave, spokeshave fashion. The one from S03E02 is made on a thick primary flake with a triangular cross-section that narrows at the distal end. One lateral edge along the distal end is retouched to form a narrow pointed side scraper.

The side scraper from S09W02 is made on a large primary flake with steep retouch on both lateral edges. It is snapped in mid-section.

Finally, the side scraper from S08E06 is made on a very large secondary flake of Bayport chert with convex retouch along one lateral edge and pronounced concave retouch on the opposite edge, creating a spokeshave (Figure 5, k). The extreme distal end of the tool is missing. This tool may have been hafted, but it is also large enough to have been hand-held.

End Scrapers The end scrapers form two distinct groups: one made on thick flakes of Onondaga chert (Group 1) and the other made on flatter, thinner flakes of Bayport chert (Group 2).

Turning to the Onondaga group first, the scraper from S11W01 is made on a thick flake with a pronounced dorsal ridge and retouch on one lateral ventral margin. The proximal end is mostly missing, but it retains a small retouched area with a spur on the corner. This tool is probably an end scraper that is missing most of the working edge. The lateral retouch may be a modification for hafting.

Two scrapers in this group (S06W05, Figure 5, e, and S04W02) are similar bit end portions with steep retouch on their distal ends. They both display dorsal ridges similar to the one described for specimen S11W01 above.

The second group of end scrapers are all similar in form, although only one is complete (S07W04, Figure 5, l). It is ovate-acuminate in shape with an evenly retouched convex working end. The lateral margins taper to a point or stem that probably functioned as a haft element. One lateral edge is heavily retouched, creating a "shoulder" near the mid-section. Additional lateral edge retouch narrows the distal end for hafting.

The other two scrapers are both bit end fragments that are extensively retouched. One (S02E03, Figure 5, j) retains part of its lateral margin and appears to be flaring out to form a shoulder as seen in the specimen described above (S07W04). The other is a snapped bit end fragment that is only 11 mm long (S10E01). It is heavily worn and heat discoloured, making its identification as Bayport chert tentative.

The significance of these two distinct groups of end scrapers is further explored in the discussion section of this paper.

Bifaces

Although there are eight biface fragments in the collection, many of them are too small to yield useful information. The most complete biface is a blade/tip section made of grey-brown local Onondaga chert (S06W04, Figure 5, f). The base is missing but the remaining portion is 39 mm long, 28 mm wide, and 8 mm thick. This specimen appears to be a point preform that was abandoned in the process of manufacture. The tip is thinned and finished, but one lateral edge has a large notch just above the break, suggesting a biface thinning error. The tip is not worn and may not have been used.

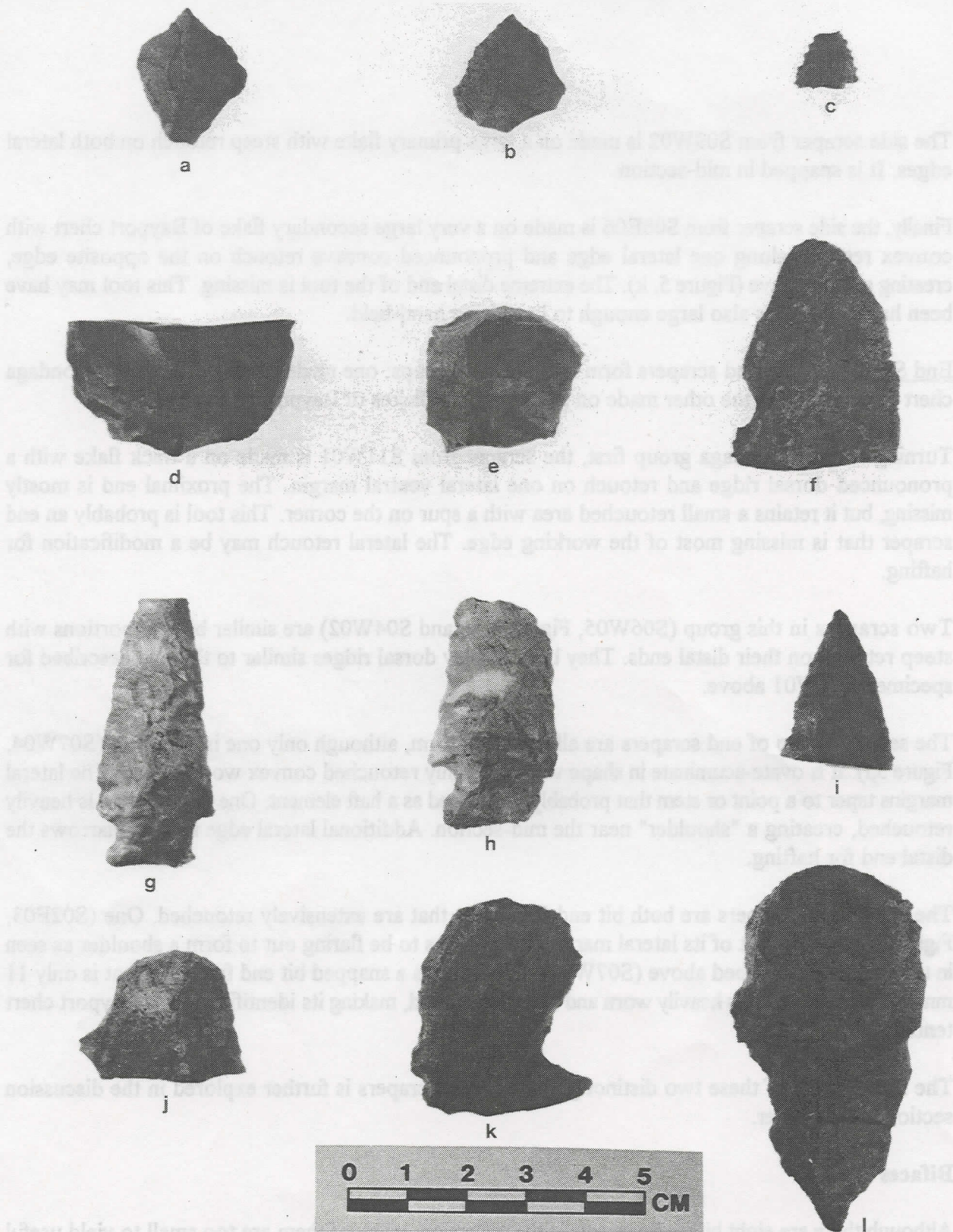


Figure 5: a-graver (S04W02); b-graver (S05E01); c-serrated point tip (S06E04); d-biface (N03E00); e-Group 1 scraper (S06W05); f-biface (S06W04); g-projectile point (S12W01); h-projectile point (S07E05); i-point tip (S10E03); j-Group 2 end scraper (S02E03); k-side scraper (S08E06), l-Group 2 end scraper (S07W04).

The second specimen is the base of a broad early stage biface, made of Onondaga chert (N03E00, Figure 5, d). It is wide and thick with coarse bifacial flaking creating sinuous edges. It measures 39 mm wide and 9 mm thick and is broken 22 mm up from the base.

The third biface (S10W01) is another base fragment from a crude early stage biface made of Onondaga chert. It is 29 mm wide, 9 mm thick and has snapped 19 mm from the base.

The final five bifaces are all very small edge fragments. They are too small to yield either length or width measurements, but they range in thickness from 4 to 7 mm.

Three of the bifaces are fairly tightly clustered around unit S10E00. The remaining five are scattered across the northern half of the site (Figure 4).

Projectile Points

There are five fragmentary projectile points in the collection. Three of these are tip fragments while the other two are almost complete but lack their extreme tips (Figure 5, g, h). Measurements are provided in Table 7.

The two near complete points are similar to each other but they do not fit neatly into any established type. The first point, from S12W01 (Figure 5, g), is thin and well made, with straight to slightly excurvate lateral blade edges. The blade is alternately bevelled and has been thinned by irregular pressure flaking oriented both perpendicular and oblique to the long axis. Some flakes terminate at a slight medial ridge but others override it, so the ridge is not pronounced. The base is slightly concave, has been thinned and lightly ground, and the one intact basal ear is rounded. The side notches are wide, are also ground, and are oriented perpendicular to the long axis.

The second point, from S07E05 (Figure 5, h), displays more pronounced bevelling of the blade and more irregular pressure flaking. One lateral edge is straight; the other is slightly incurvate, sinuous, and coarsely serrated. The base is again thinned and slightly concave and the intact basal ear is rounded. However, the base and notches are not ground on this specimen. The single intact notch is quite wide and is oriented slightly oblique to the long axis.

Turning to the point tips, one (S09W04) is particularly thin (3 mm) and has been well finished with the removal of flat pressure flakes. The second (S10E03, Figure 5, i) is thicker but its lateral edges are bevelled, and the third (S06E04, Figure 5, c) is a very small fragment, but is neatly serrated.

The projectile points do not show any obvious spatial clustering (Figure 4). The points share characteristics with a range of Early Archaic, Late Archaic and Early Woodland point types, but do not conform precisely to any of them. They are superficially similar to the Late Archaic Normanskill type, but they lack the thick bi-convex cross-section and the bold side-notching associated with that type (Ritchie 1961). They are also much thinner and more finely made than most Normanskill points.

TABLE 7 PROJECTILE POINT DATA

<i>Prov.</i>	<i>Length</i>	<i>Shoulder Width</i>	<i>Inter-notch Width</i>	<i>Base Width</i>	<i>Thick.</i>
S12W01	57*	20	12	15	4
S07E05	65*	22	14	18*	4
S10E03	-	-	-	-	5
S09W04	-	-	-	-	3
S06E04	-	-	-	-	4

Note - all points are of Onondaga chert; * = estimated measurement

The Wimmer points are similar to the Early Woodland Meadowood form, but they are certainly not typical examples. The most common attributes of Meadowood points are thin triangular blades, flat cross-sections and small, neat side-notches, which are shared to some extent by the Wimmer specimens (Ritchie 1961:35). Meadowood point blades are sometimes bevelled from opposite sides, as are both of the Wimmer points (Ritchie 1961; Justice 1987). Ground bases occur on about 50% of Meadowood points (Ritchie 1961:37). The main area where the Wimmer points diverge from the Meadowood type is in basal configuration, which is usually convex on Meadowood points but is straight to slightly concave on the Wimmer specimens. In addition, Meadowood points usually have bases that are as wide or wider than their shoulders, whereas the Wimmer point bases are more narrow than their shoulders. This seems to be a fundamental difference in form. The Wimmer points are also slightly more narrow than most Meadowood points.

Edge serration, alternate blade bevelling, well controlled pressure flaking, basal thinning and grinding, notch grinding, and rounded basal ears are characteristics often found on Early Archaic point forms, such as Nettling (Fox 1980) and Palmer (Justice 1987). The Wimmer specimens, including the tip fragments, share many of these early characteristics. The points are also reminiscent of the recently defined Tegis point type with respect to both blade attributes (straight edges, bevelling, serration) and base configuration, however, they are substantially larger than Tegis points (Burgar 1993a.). It should also be noted that the chronological position of Tegis points have not been firmly established, although they display all of the Early Archaic attributes listed above.

In summary, the Wimmer points are not easily typed, since they share characteristics of known forms that span several thousand years of the Archaic and the Early Woodland periods. It is possible that they represent a previously unidentified Archaic point type.

Gravers

There are two gravers of similar pentagonal form in the Wimmer collection (Figure 5, a,b). Both are made on secondary flakes of Onondaga chert with a point along one lateral edge. One of the gravers (S05E01) has a more deliberately flaked point, while the other (S04W02) shows minimal flaking on one edge of the point. Interestingly, both tools also have one slightly rounded and polished edge, possibly from being hand held during use. The first (S05E01) measures 19 x 18 x 3 mm and the second (S04W02), 19 x 32 x 2 mm. Both gravers were found in the northern half of the site within 3 metres of each other (Figure 4).

Drill

There is one drill tip made of Onondaga chert in the collection. It is bifacially flaked with a bi-convex cross-section 4 mm thick and is rounded and polished from use.

Faunal Material

The small faunal collection consists of three chicken bones and one cow incisor. This material is obviously intrusive and unrelated to the occupation of the site.

DISCUSSION

Artifact Spatial Distributions

As noted previously, the debitage and the utilized flakes have similar distributions, involving a heavy concentration in the south central portion of the site and lower densities in the northern part of the excavation. Figure 4 shows the distribution of all other artifacts. It partly emulates the debitage and utilized flake pattern, inasmuch as there is a concentration of tools in the south central portion of the excavation. Yet there is also a small concentration along the eastern edge of the excavation around S05W04, and a larger, more elongated cluster in the northwest part of the site.

The Wimmer site was plough disturbed prior to being planted in trees. Thus we can expect some smearing of original artifact distributions, although perhaps not as much as would be seen in a site continuously ploughed for decades. Regrouping the debitage data as interval data can give the illusion of boundedness at certain intervals, such as the 25 flake interval used in Figure 6. This interval yields a tightly clustered area of high debitage density measuring about 7 x 6 metres that could be interpreted as delineating a house structure. Yet the boundaries are seriously obscured when the density interval is adjusted to 10 flakes (Figure 7), highlighting the fact that there really is no abrupt termination in debitage density. Based on the present data, it is impossible to determine if this is an accurate reflection of the original artifact spatial pattern, or to what extent it has been altered by plough smearing and the use of one metre square provenience. One can only reliably state that a debitage concentration is present - what it represents is open to interpretation.

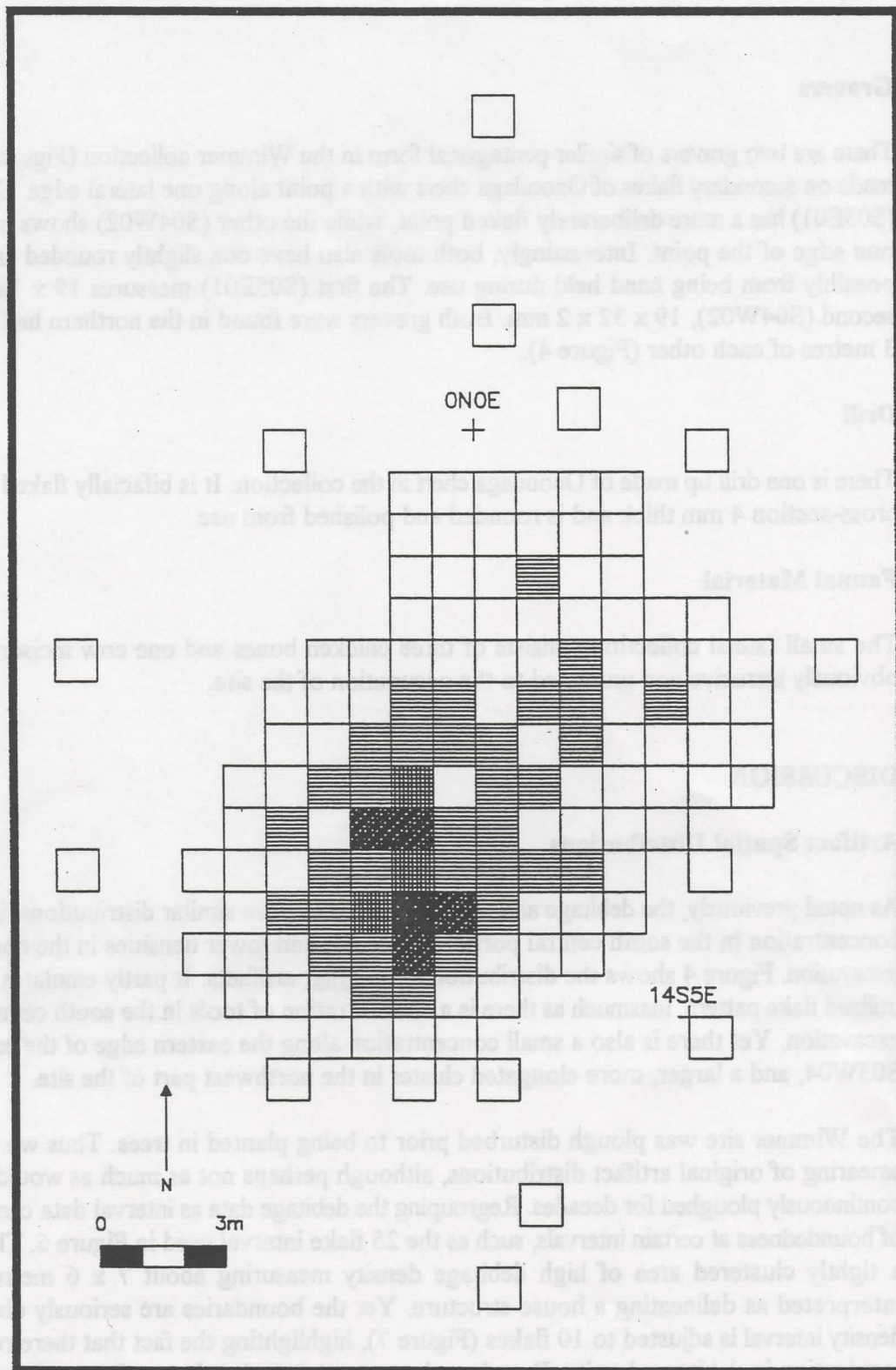


Figure 6: Debitage Density for frequency interval of 25.

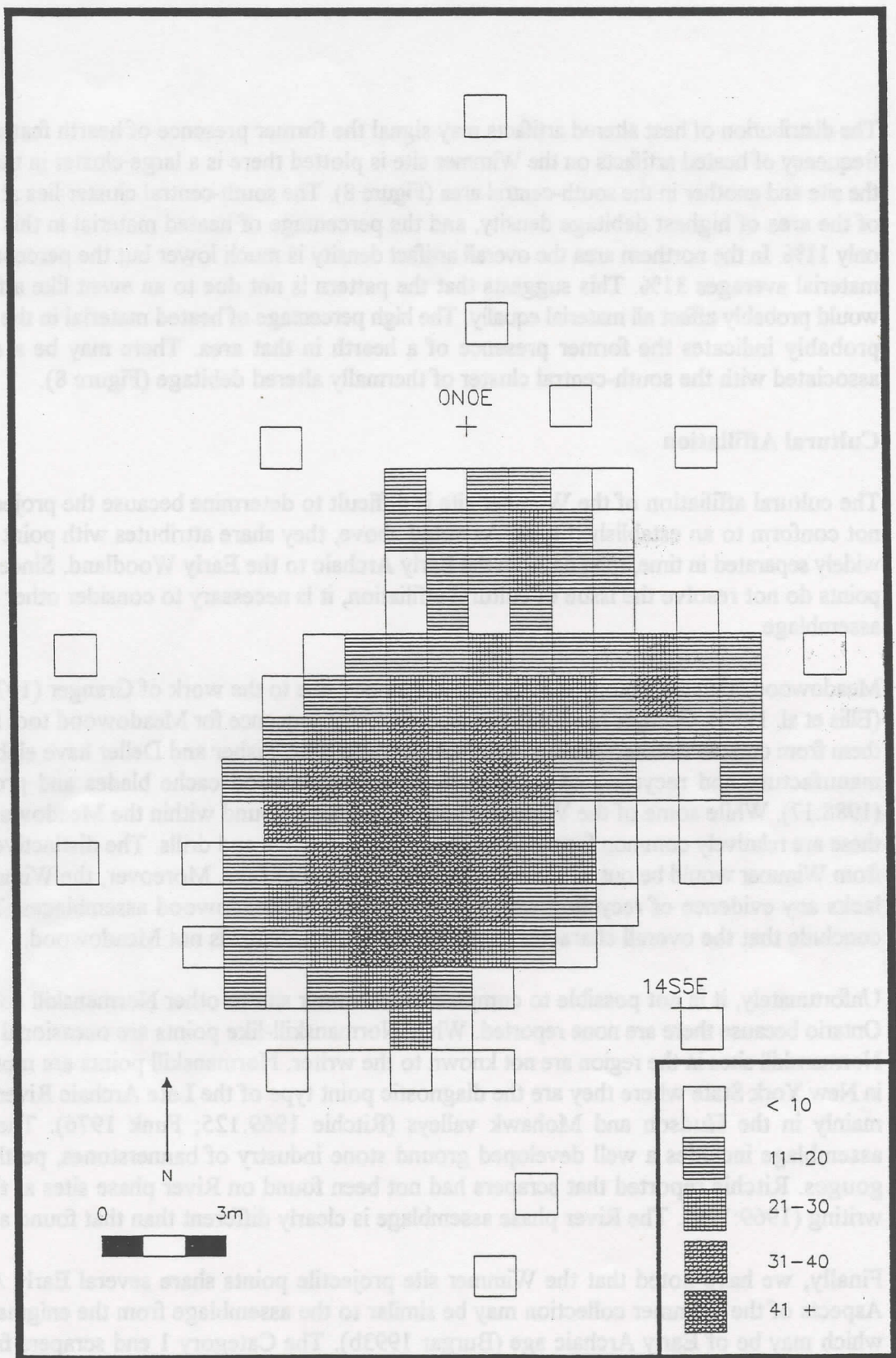


Figure 7: Debitage Density for frequency interval of 10.

The distribution of heat altered artifacts may signal the former presence of hearth features. When the frequency of heated artifacts on the Wimmer site is plotted there is a large cluster in the north end of the site and another in the south-central area (Figure 8). The south-central cluster lies at the north end of the area of highest debitage density, and the percentage of heated material in this area averages only 11%. In the northern area the overall artifact density is much lower but the percentage of heated material averages 31%. This suggests that the pattern is not due to an event like a forest fire that would probably affect all material equally. The high percentage of heated material in the northern area probably indicates the former presence of a hearth in that area. There may be a second hearth associated with the south-central cluster of thermally altered debitage (Figure 8).

Cultural Affiliation

The cultural affiliation of the Wimmer site is difficult to determine because the projectile points do not conform to an established type. As noted above, they share attributes with point types that are widely separated in time, ranging from the Early Archaic to the Early Woodland. Since the projectile points do not resolve the issue of cultural affiliation, it is necessary to consider other aspects of the assemblage.

Meadowood lithic technology is fairly well understood due to the work of Granger (1978) and others (Ellis et al. 1988). Granger has detailed a manufacturing sequence for Meadowood tool forms, tracing them from core to finished product (1978:18), while Ellis, Fisher and Deller have elaborated on the manufacture and recycling of tools made from Meadowood cache blades and projectile points (1988:17). While some of the Wimmer tools are certainly found within the Meadowood repertoire, these are relatively common forms like utilized flakes, graters and drills. The distinctive end scrapers from Wimmer would be out of place in a Meadowood assemblage. Moreover, the Wimmer collection lacks any evidence of recycling which is so common in Meadowood assemblages. Therefore, we conclude that the overall character of the Wimmer assemblage is not Meadowood.

Unfortunately, it is not possible to compare the Wimmer site to other Normanskill collections from Ontario because there are none reported. While Normanskill-like points are occasional surface finds, Normanskill sites in the region are not known to the writer. Normanskill points are most often found in New York State where they are the diagnostic point type of the Late Archaic River phase, found mainly in the Hudson and Mohawk valleys (Ritchie 1969:125; Funk 1976). The River phase assemblage includes a well developed ground stone industry of bannerstones, pestles, adzes and gouges. Ritchie reported that scrapers had not been found on River phase sites at the time of his writing (1969:129). The River phase assemblage is clearly different than that found at Wimmer.

Finally, we have noted that the Wimmer site projectile points share several Early Archaic traits. Aspects of the Wimmer collection may be similar to the assemblage from the enigmatic Tegis site, which may be of Early Archaic age (Burgar 1993b). The Category 1 end scrapers from Tegis are relatively thick and have a ridge or keel running down the dorsal surface (Burgar 1993b:10), much like the Group 1 scrapers from Wimmer. Both collections have bifaces, drills, and a variety of informal flake tools, but these tool forms occur on almost all Archaic sites and cannot be considered diagnostic.

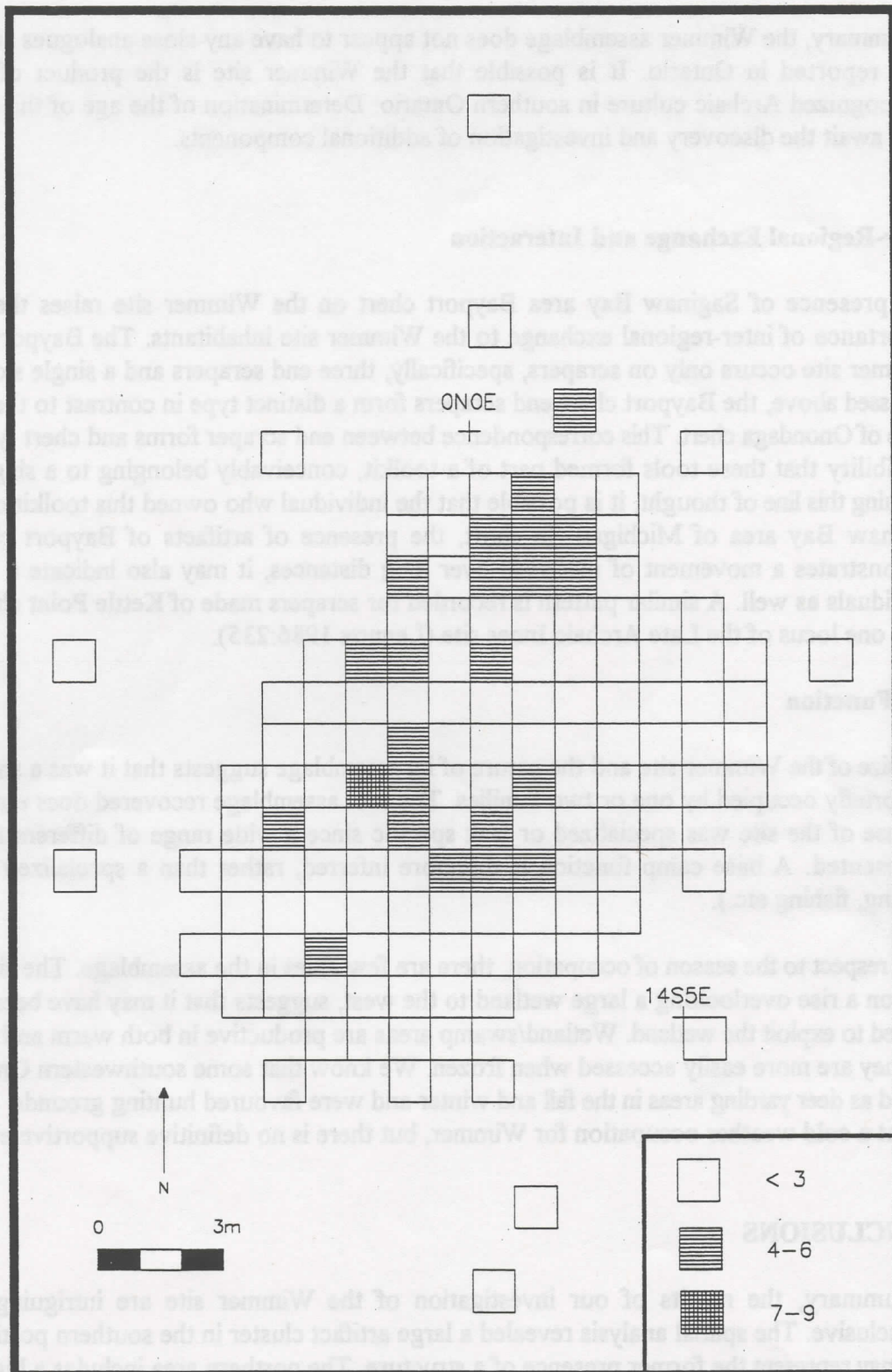


Figure 8: Density of Heated Artifacts.

In summary, the Wimmer assemblage does not appear to have any close analogues among Archaic sites reported in Ontario. It is possible that the Wimmer site is the product of a previously unrecognized Archaic culture in southern Ontario. Determination of the age of this manifestation must await the discovery and investigation of additional components.

Inter-Regional Exchange and Interaction

The presence of Saginaw Bay area Bayport chert on the Wimmer site raises the issue of the importance of inter-regional exchange to the Wimmer site inhabitants. The Bayport chert on the Wimmer site occurs only on scrapers, specifically, three end scrapers and a single side scraper. As discussed above, the Bayport chert end scrapers form a distinct type in contrast to the end scrapers made of Onondaga chert. This correspondence between end scraper forms and chert types raises the possibility that these tools formed part of a toolkit, conceivably belonging to a single individual. Pursuing this line of thought, it is possible that the individual who owned this toolkit came from the Saginaw Bay area of Michigan. In short, the presence of artifacts of Bayport chert not only demonstrates a movement of materials over long distances, it may also indicate a movement of individuals as well. A similar pattern is recorded for scrapers made of Kettle Point chert recovered from one locus of the Late Archaic Innes site (Lennox 1986:235).

Site Function

The size of the Wimmer site and the nature of its assemblage suggests that it was a small camp that was briefly occupied by one or two families. The tool assemblage recovered does not indicate that the use of the site was specialized or task specific since a wide range of different tool types are represented. A base camp function is therefore inferred, rather than a specialized function (i.e. hunting, fishing etc.).

With respect to the season of occupation, there are few clues in the assemblage. The situation of the site, on a rise overlooking a large wetland to the west, suggests that it may have been strategically located to exploit the wetland. Wetland/swamp areas are productive in both warm and cold seasons, but they are more easily accessed when frozen. We know that some southwestern Ontario swamps served as deer yarding areas in the fall and winter and were favoured hunting grounds. These factors hint at a cold weather occupation for Wimmer, but there is no definitive supportive evidence.

CONCLUSIONS

In summary, the results of our investigation of the Wimmer site are intriguing, but largely inconclusive. The spatial analysis revealed a large artifact cluster in the southern portion of the site that may represent the former presence of a structure. The northern area includes a high percentage of heat altered material and two other tool clusters, although these three areas are not associated. These may represent an exterior hearth and two separate activity areas, although the activity areas are not specialized. We conclude that the site probably served as a base camp for one or two families,

and was likely occupied during the cold season primarily for the purpose of exploiting the wetland to the west. Unfortunately, all of these interpretations must remain speculative given the limited data from the Wimmer site.

There is evidence for inter-regional exchange and interaction in the Wimmer assemblage. The presence of four Bayport chert scrapers in the absence of other Bayport artifacts or debris, suggests that they may all relate to a single individual with connections to the Saginaw Bay area, or perhaps a single transaction involving these tools.

It has not been possible to identify the cultural affiliation of the site occupants, primarily because the projectile points do not correspond to any established type. This suggests that we may be dealing with a previously unknown cultural manifestation. One can only hope that future research will yield additional sites with similar artifacts that may help to establish an age range and cultural affiliation for this material. Sites like Wimmer, that do not fit into our established cultural-chronological framework, are important because they remind us that there are still significant gaps in our understanding of Ontario prehistory.

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